

Abstract

A metal halide lamp has an arc tube that includes:
a pair of electrode structures, each of which has an
5 electrode at a tip; a main tube part made of polycrystalline
alumina ceramic, and containing a discharge space in which
the electrodes of the electrode structures are located to
oppose each other; and a pair of thin tube parts that
connect from the main tube part and are sealed by respective
10 sealing members with the electrode structures inserted
therein, where $20 \leq WL \leq 50$, $EL/Di \geq 2.0$, and $0.5 \leq G \leq 5.0$ are
satisfied where tube wall loading of the arc tube is
 $WL(\text{W/cm}^2)$, a distance between the electrodes is $EL(\text{mm})$,
an inner diameter of the main tube part is $Di(\text{mm})$, and a
15 crystal grain diameter of the polycrystalline alumina
ceramic is $G(\mu\text{m})$.